INTEGRATING NON-CRIME DATA

Where to Find It; How to Use It

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Abstract

Crime data are readily available from law enforcement agencies, but where do crime analysts and researchers go to access non-crime data on land use, physical attributes, and socio-economic factors? This workshop discusses the rationale, sources, costs, and compatibility issues associated with obtaining data from zoning authorities, boards of education, public housing authorities, liquor boards, estate boards, transit authorities, retail licensing authorities, the Department of Housing and Urban Development (HUD), and the Bureau of the Census.

I. Overview: What is a GeoArchive?

A GeoArchive is a database of community and law enforcement data, organized for use in crime analysis, investigation and community problem-solving. A database (or data table) is a set of information including an identifier, organized in a file structure with fields (variables) as columns and types of information, such as offense, date, address or offender's street gang, as rows.

A type of GIS (Geographic Information System), a GeoArchive contains address-level data from both law enforcement and community sources, linked to computer mapping capability, and organized so that the data can be updated, maintained, mapped, analyzed and used by those who are developing and implementing strategies of crime reduction in the community.

> A **{**XE "GeoArchive"**}**GeoArchive is a **{**XE "GIS"**}**geographic information system with the following characteristics:
>
> It contains address-based, neighborhood-level information
> It contains both community and law enforcement data
> It is easily accessible to local decision-makers on a timely basis

When combined with a problem-oriented community policing program, a GeoArchive can become an *information foundation for community policing.*

II. Importance of layers.

A. *Must be possible to have data behind each point, area or line on the map.*

A GeoArchive is a specific kind of GIS (Geographic Information System). This is a basic characteristic of GIS. It is the difference between "just a pretty map" and a tool for problem solving.

>> None of these objects on a map is just a "pretty picture" with nothing behind it. Every object has *at least*:

i. x, y coordinates
ii. Overlapping boundaries, if any

>> Visible versus not visible layers in a GIS
i. Data need not be visible to be used in a map.
a. E.g.: Census data.
b. x, y coordinates (address matching)
ii. Useful to make some data visible only at a large scale (depending on the zoom)
E.g.: detailed streets, huge point files
ii. Census data usually not visible

>> Source of population data behind each beat:
i. aggregated from block Census data
ii. Data not visible, but a vital part of the GeoArchive

>> street map file problems
E.g.: unknown streets, changing landscape

>> Importance of labeling data files
(e.g.: abandoned building data)
Labeling protocols >> date, source as part of name
Security issues

III. *Data links* between Criminal justice data and community data.

A. Importance of the Base Map: Base Map Issues
i. Geocoding accuracy and completeness (hit rate) depends on the quality of the base map.
ii. Base map quality issues.
a. Geocoding within unaddressed (or unaddressable) areas. Rural routes (GPS) e.g.: Vermont: burglary to auto, 20 feet off road; Alleys behind a tavern; Parks, Shopping Centers, Parking lots (O'Hare, malls)

B. How to create and maintain a high-quality base map

IV. Where Do You Get Your Layers?

A. Non-criminal justice data sources
    Streets - problems
    Census - problems
B. Creating new data through GIS
    Address matching; Linking addresses
C. Spatial analysis
    STAC
    Vertical Mapper

V. Maintenance of GeoArchive Data

1. Establish, cultivate and tend good collaboration with other agencies
Hints:
    don't demand data; work together toward a common goal
    add value, and share the improved data with your source
    don't ask too much
        Do geocoding yourself
        Be flexible about formats, etc.
    Give credit where due (and even where its not completely due)
        Use the GeoArchive to bring people together (and bring agencies together).

2. Start small but think big
Hints:
    Do the possible first, then use results of that to establish credibility for more extended collaboration.
    With police data (e.g.: ICAM), timeliness may be the most important priority

3. Dataset issues:
x and y coordinates as part of database

4. Geocoding issues and hints.
GPS, sectors
How to improve your base map

5. Data privacy and security issues.
Accessibility to multiple users. (E.g.: ICAM kiosks)

6. Combine central resources and local access

"data synchronization" of local and central datasets
Hint: greater accessability and greater use increases data quality

7. Problems related to updating GeoArchive datasets: how we do it
Issues:
keeping records & files of who to contact & when
how to maintain many years & versions of a same dataset, without getting confused.